REMARKS

This responds to the Office Action mailed on July 18, 2006. Claims 1, 9, 17, 18, 22 and 23 are amended. Claims 1-27 remain pending in this application.

35 U.S.C § 103 Rejection of the Claims

Claims 1 - 27 were rejected under 35 USC § 103(a) as being unpatentable over the combination of U.S. Patent No. 5,499,378 to *McNeill, Jr. et al.* ("McNeill") in view of and the standard disclosed SCSI command. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness for a number of reasons. The Office Action fails to provide adequate evidence of the motivation necessary to modify the system of McNeill in the manner proposed in the Office Action. Moreover, even if the system of McNeill were modified in this manner, the modified system still falls short of the invention recited in the amended claims.

Independent claims 1 and 9 recite "an expander device capable of creating at least one of a persistent reservation or a persistent affiliation between said circuit card and one or more target SATA storage devices." In general, an expander device couples at least one device to many devices. To provide further clarification, claims 1 and 9 have been amended to recite that the expander device is capable of communicating with "a plurality of target storage devices... including one or more target SATA storage devices." Independent claims 17 and 22 have similarly been amended to recite "one or more target SATA storage devices of a plurality of target storage devices." Thus, the persistent reservation or persistent affiliation is created between one or more target SATA storage devices of the plurality of target storage devices and the one or more initiator engines. Support for these amendments may be found, for example, in paragraph 0017 of the present published application, which describes one embodiment of an expander device capable of coupling a plurality of drives together in a clustered environment.

McNeill does not appear to disclose or suggest an expander device, as recited in independent claims 1 and 9. The Office Action asserts that "McNeill discloses a SCSI emulation device/target system, which is equivalent to the claimed expander device." Applicant respectfully disagrees. FIG. 2 of McNeill shows and describes an initiator 10 and a target 14 without any expander device communicating with the initiator 10 and the target 14. Moreover,

McNeill does not appear to disclose or suggest a plurality of target storage devices, as recited in amended claims 1, 9, 17 and 22. McNeill shows only a single initiator 10 coupled to a single target 14. The Office Action has provided no motivation that suggests the desirability of modifying the system of McNeill to include an expander device or a plurality of target storage devices. Indeed, with only a single initiator 10 and single target 14 in the system of McNeill, one of ordinary skill in the art would not be motivated to use an expander device in the system of McNeill.

McNeill also does not appear to disclose or suggest one or more SATA storage devices, as recited in independent claims 1, 9, 17 and 22. The Office Action asserts that "McNeill disclose the device as a serial magnetic disk (figure 2), which is equivalent to the claimed SATA storage." Applicants respectfully point out that McNeill refers to a "hardfile 16" and a "target system magnetic disk 16" but does not appear to use the term "serial" to describe the hardfile or magnetic disk 16. Even if McNeill did disclose that the magnetic disk 16 was a "serial magnetic disk," the Office Action fails to establish how such a serial magnetic disk 16 is equivalent to a Serial ATA storage device. At best, the magnetic disk 16 is equivalent to a SATA storage device only to the extent that both are capable of storing data. Some level of equivalency, by itself, does not necessarily establish obviousness. "In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." MPEP 2144.06. The Office Action fails to discuss any prior art establishing such equivalence between the magnetic drive disclosed in McNeill and a SATA storage device. In the absence of some evidence supporting an art-recognized equivalence, applicants submit that the Office Action fails to establish *prima facie* obviousness.

Furthermore, McNeill discloses that "[t]he described invention is operable in conjunction with the IBM PS/2 computer series and all compatibles." Applicants respectfully submit the IBM PS/2 compatible computer described in McNeill would not have had the capability to support a SATA storage device. To use a SATA storage device with the IBM PS/2 computer system would have required a substantial reconstruction and redesign of the IBM PS/2 computer system, which would change the principle of operation of the IBM PS/2 computer system. For

this additional reason, applicants submit that the proposed modification would not have been obvious. See MPEP 2143.01 (VI).

In response to applicant's arguments in the previous reply, the Office Action asserts that the particular type of non-SCSI protocol, such as SATA, is merely a matter of design choice and presents no new or unexpected results. Applicants respectfully submit that merely asserting that something is a design choice does not satisfy the burden of the PTO to provide evidence of the motivation that suggests the desirability of the claimed invention. The rationale supporting an obviousness rejection may be based on an obvious design choice only in limited situations where the facts of a prior legal decision are sufficiently similar to those in the application under examination. See MPEP 2144 and 2144.04.

The Office Action also fails to provide adequate motivation to use a persistent reservation or a persistent affiliation in the system of McNeill. Claims 1, 9, 17 and 22 have been amended to clarify "said persistent reservation and said persistent affiliation capable of being maintained across power cycles." Support for this amendment may be found in paragraphs 0020 and 0022 of the present published application. In paragraphs 0020 and 0022, the present application further describes one embodiment in which a reservation or affiliation grants exclusive access to a drive or a portion of a drive. The use of persistent reservations or persistent affiliations providing exclusive access across power cycles may have advantages when communicating with a plurality of target storage devices in a clustered environment. SATA storage devices were previously unable to take advantage of the persistent reservation and persistent affiliation features available to serial attached SCSI (SAS) devices, as mentioned in paragraph 0021 of the present published application.

The Office Action asserts that "[s]ince persistent reservation is a standard SCSI command as disclosed in the Specification, one with ordinary skill in the computer art will also implement NcNeil's [sic] expander device to emulate the persistent reservation." Although the persistent reservation command may have been a SCSI command described in the T10 standard referenced in the present application, the existence of the command in the current T10 standard, by itself, does not provide any motivation suggesting the desirability of using this command in the IBM PS/2 system of McNeill. To rely on the present application as providing the motivation to use the persistent reservation command is improper hindsight reasoning. Applicants submit that the

persistent reservation command was not supported by the SCSI protocol used with IBM PS/2 computers at the time of McNeill. Thus, the system of McNeill cannot emulate a SCSI command that did not exist at the time. Again, the Office Action provides no evidence of motivation in the prior art to use persistent reservation or persistent affiliation in the system disclosed by McNeill.

Because the Office Action fails to provide adequate motivation to modify McNeill in a manner that results in the invention recited in the independent claims, applicants submit that the independent claims, and claims dependent therefrom, would not have been obvious over McNeill. Accordingly, applicants request that the rejection under 35 U.S.C. 103 be withdrawn.

With respect to the claims dependent from independent claims 1, 9, 17 and 22, applicants submit that these claims are patentable by virtue of their dependency and for the additional features recited therein. In particular, McNeill fails to disclose or suggest serial management protocol (SMP) commands, as recited in dependent claims 2, 3, 10, 11, 18-20, and 23-25, or the use of SMP commands according to a Serial Attached SCSI (SAS) protocol, as recited in amended dependent claims 18 and 23. A mere disclosure of "initializing the target" does not teach or suggest the use of SMP commands or a SAS protocol. McNeill also fails to disclose or suggest storing the persistent reservation or the persistent affiliation in memory, as recited in dependent claims 7, 8, 15, and 16. Storing persistent reservations and/or persistent affiliations in memory is one way in which an expander device may maintain reservations across power cycles, for example, as described in paragraph 0024 of the present published application. Mere disclosure of a memory in McNeill does not teach or suggest a storing persistent reservations and/or persistent affiliations in memory. For these additional reasons, applicants submit that the dependent claims would not have been obvious under 35 U.S.C. 103 over McNeill.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (603-668-6560) to facilitate prosecution of this application.

Respectfully submitted,

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